Ferroalloy Production

Proposed Rule: Mandatory Reporting of Greenhouse Gases

United States Environmental Protection Agency

Under the proposed Mandatory Reporting of Greenhouse Gases (GHGs) rule, owners or operators of facilities that contain ferroalloy production processes (as defined below) and that emit 25,000 metric tons of GHGs per year or more (expressed as carbon dioxide equivalents) from stationary combustion, miscellaneous use of carbonates, and other source categories (see information sheet on General Provisions) would report emissions from ferroalloy production processes and any other source categories located at the facility for which emission calculation methods are defined in the rule. Owners or operators would collect emission data; calculate GHG emissions; and follow the specified procedures for quality assurance, missing data, recordkeeping, and reporting.

How Is This Source Category Defined?

Under the proposal, the ferroalloy production source category consists of any facility that uses pyrometallurgical techniques to produce any of the following metals: ferrochromium, ferromanganese, ferromolybdenum, ferronickel, ferrosilicon, ferrotitanium, ferrotungsten, ferrovanadium, silicomanganese, or silicon metal.

What GHGs Would Be Reported?

The proposal calls for ferroalloy production facilities to report the following emissions:

- Carbon dioxide (CO_2) emissions from each electric arc furnace (EAF) used for ferroalloy production.
- Methane (CH_4) emissions from each EAF used for the production of silicon metal, ferrosilicon 65 percent, ferrosilicon 75 percent, or ferrosilicon 90 percent.

In addition, each facility would report GHG emissions for other source categories for which there are methods provided in the rule. For example, facilities would report CO_2, nitrous oxide (N_2O), and methane (CH_4) emissions from each stationary combustion unit on site by following the requirements of 40 CFR part 98, subpart C (General Stationary Fuel Combustion Sources). Please refer to the relevant information sheet for a summary of the proposal for calculating and reporting emissions from any other source categories at the facility.

How Would GHG Emissions Be Calculated?

For CO_2 emissions, the proposal calls for facilities to use one of two methods, as appropriate:

- EAFs with certain types of continuous emissions monitors (CEMS) in place would report using the CEMS and follow the methodology of 40 CFR part 98, subpart C to report total CO_2 emissions from calcination and fuel combustion. At other EAFs, the use of CEMS would be optional.
- Facilities without CEMS would calculate CO_2 emissions monthly using a mass balance equation that considers the measured quantity and carbon content of each carbon containing input (ore,

carbon electrodes, flux, and reducing agents) and output material (product and nonproduct materials) for each EAF. The owner or operator would use carbon content data provided by the material supplier or by annual analyses of representative samples of the materials by an independent certified laboratory. The mass of each material would be either measured directly or calculated using process information.

For CH_4 emissions, the owner or operator would use the annual mass of alloy produced and a default emission factor.

What Information Would Be Reported?

In addition to the information required by the General Provisions at 40 CFR 98.3(c), the proposal calls for each ferroalloy production facility to report the following information:

- Annual CO_2 emissions for each EAF used to produce ferroalloys.
- Annual CH_4 emissions from each EAF used in the production of silicon metal, ferrosilicon 65 percent, ferrosilicon 75 percent, or ferrosilicon 90 percent.
- Ferroalloy product production capacity of the facility.
- Annual facility production quantity for each ferroalloy product.
- Annual operating hours.

If the carbon-balance calculation method is used to calculate CO_2 emissions, the owner or operator would report the annual quantity and average carbon content of each carbon-containing input or output from the furnaces.

Facilities that use CEMS would also report the data specified in 40 CFR 98.34(d) of subpart C (General Stationary Fuel Combustion Sources).

For More Information

This series of information sheets is intended to assist reporting facilities/owners in understanding key provisions of the proposed rule. However, these information sheets are not intended to be a substitution for the rule. Visit EPA's Web site (www.epa.gov/climatechange/emissions/ghgrulemaking.html) for more information, including the proposed preamble and rule and additional information sheets on specific industries, or go to <www.regulations.gov> to access the rulemaking docket (EPA-HQ OAR-2008-0508). For questions that cannot be answered through the Web site or docket, call 1-877-GHG-1188.